

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A single mode optical amplifier, comprising;

a single mode light source;

a doped, pumped multimode fiber ~~laser~~ amplifier receiving an output from said light source; said fiber ~~laser~~ amplifier having a length exceeding 10 centimeters, and producing an output substantially in the fundamental mode of said fiber.

2. (currently amended): A single mode optical amplifier, comprising;

a single mode light source; and

a doped, pumped multimode core fiber ~~laser~~ amplifier receiving the output of said light source, and having an output substantially in the fundamental mode of said fiber.

3. (currently amended): A single mode optical amplifier, comprising;

a single mode light source; and

a doped, pumped fiber ~~laser~~ amplifier receiving an output of said light source, and exhibiting a gain-guiding characteristic.

4. (original): An optical amplifier, comprising;

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a source of single-mode light pulses having sub-picosecond pulse width; and
a fiber amplifier for increasing the pulse energy of said pulses to greater than 160 microjoules.

5. (original): An optical amplifier system, comprising;
a laser diode pumped source;
an actively Q-switched micro laser receiving the output of said laser diode; and
a Yb fiber laser coupled to the output of said micro laser, said fiber laser including a multimode Yb doped fiber obtaining single mode amplification at an output thereof.

6. (original): An optical amplifier, comprising:
a Q-switched microlaser,
a Yb fiber laser, and
a mode coupler for coupling output light from said microlaser into a fundamental mode of said Yb fiber laser.

7. (original): An optical amplifier, comprising:
a Q-switched source of substantially single mode light; and
a gain guided fiber laser for amplifying said single mode light.

8. (original): An optical amplifier, comprising:

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a single mode light source; and

a multimode fiber amplifier employing gain guiding to propagate the output of said fiber amplifier in single mode.

9. (currently amended): An optical amplifier, comprising:

a source laser generating output light; and

a multimode core, cladding-pumped fiber amplifier which is essentially dispersion free in the amplifier operating range.

10. (currently amended): An optical amplifier system adapted to be used in replacement of Nd:based lasers and particularly Nd:YAG, comprising:

a microchip laser source; and

a Yb:based multimode core fiber amplifier receiving an output of said microchip laser and producing an output substantially in the fundamental mode of said fiber.

11. (new): A single mode optical amplifier, comprising:

a single mode light source;

a doped, pumped, coiled multimode core fiber amplifier receiving the output of said light source, and producing an amplified output substantially in the fundamental mode of said fiber.

12. (new): A single mode optical amplifier, comprising:

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a single mode light source; and

a doped, pumped multimode core fiber amplifier receiving the output of said light source,
and exhibiting a gain-guiding characteristic.